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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,441	01/25/2002	Ivan Fernandez-Corbaton	010379	9642

23696 7590 09/14/2005

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

PALADINI, ALBERT WILLIAM

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,441

Applicant(s)

FERNANDEZ-CORBATON ET AL.

Examiner

Albert W. Paladini

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/9/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-23 rejected under 35 U.S.C. 102(b) as being anticipated by Ziv (5867527).

From line 57 in column 5 to line 11 in column 6, and on lines 36 to 53 in column 12, Ziv discloses a system and method of determining signal time of arrival in a wireless communication system using a searcher or integrated search processor (128, figure 4) and by determining the maximum correlation energy using the searcher sequencing control (350, figure 13).

3. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Tekinay (6259894).

From line 59 in column 1 to line 10 in column 2, Tekinay teaches a system for determining time or arrival of a signal using a search technique where the incoming signal is passed through a matched filter which generates a correlation signal and the time of arrival is determined when the correlation value obtains a peak or maximum.

Relevant Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Porcino (6469665) discloses a system where time of arrival of a signal in a positioning system can be measured by using the correlation properties of a pseudo-noise (PN) sequence, transmitted from a transmitter to a receiver. The correlation of the received signal with a replica of the transmitted signal will produce a peak in the correlation function when the two are synchronized. The peak can be detected even in the presence of severe distortion caused by multipath propagation and noise. Therefore, the problem of measuring time of arrival is equivalent to the accurate detection of the position of the peak in the correlation function between the distorted, received signal and a replica of the transmitted signal. It is known that correlation of the received signal with the replica can be performed in either the time domain or in the frequency domain.

Laroia (6922388) discloses a signal construction, detection and estimation technique, which provides a maximum-likelihood (ML) estimator for the base station to estimate the arrival time of the received multitone timing and access signal. In a multipath channel, the ML estimate is the delay that maximizes the sum of the cross-

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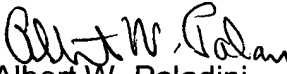
correlation energies of the received signal with certain multipath component of the transmitted signal. The ML estimator can be implemented with standard Inverse Fast Fourier Transform (IFFT) techniques. Also, the received signal power can be estimated by the maximum of the total cross-correlation energy. The presence of a transmitted access signal can be detected when the estimated received signal power surpasses a pre-determined energy threshold constant. The ML estimate for the timing and power can be used in the access acknowledgment, if the access can be granted.

5. Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (571) 272-3748. The examiner can normally be reached from 7:00 to 3:00 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (571) 272-3749. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

September 12, 2005


Albert W. Paladini
Primary Examiner
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